



STATE OF THE WORLD'S FORESTS

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Food
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Nations

Foreword

The *State of the World's Forests* reports every two years on the status of forests, recent major policy and institutional developments and key issues concerning the forest sector. This is the fourth edition of the publication, the purpose of which is to make current, reliable and policy-relevant information widely available to policy-makers, foresters and other natural resource managers, academics, forest industry and civil society. Our hope is that it will facilitate informed discussion and decision-making with regard to the world's forests.

As we approach the benchmark year of 2002, the tenth anniversary of the United Nations Conference on Environment and Development (UNCED), it is an opportune moment to take stock of the progress made over the past decade. UNCED sparked a decade of change, characterized by new thinking and fresh approaches to forest management, as well as questioning as to what its objectives should be and who the beneficiaries should be. A vision of sustainable forest management emerged, commitment was strengthened and innovative alliances forged with the aim of achieving common goals in forestry.

Over the past ten years, the sector has moved in two seemingly opposite directions simultaneously, towards "localization", on the one hand, and "globalization", on the other. At the national level, forest planning processes, policies, legislation and field programmes have taken on new emphases, including increased decentralization and participation. Internationally, it has been a time of intense debate, with discussions over the past five years resulting in agreement on several proposals for action, including – very recently – the establishment of an international arrangement to promote the sustainable management, conservation and development of all types of forest, to strengthen long-term political commitment and to promote the implementation of the proposals for action. At the technical level, a wide variety of international initiatives on forests have been launched through various mechanisms, and regional cooperation in forest-related issues has been strengthened.

The *State of the World's Forests 2001* examines these developments, focusing mainly on the past two years. Part I provides an overview, briefly highlighting some of the recent key developments in the sector. Part II comprises four chapters, each focusing on a selected topical issue that merits an in-depth review. The first reports on the findings of the Global Forest Resources Assessment 2000, the most recent and comprehensive assessment of the status and trends of forest resources worldwide; the second chapter discusses climate change and forests, a topic of particular interest that stems from concern about possible climate-induced changes and from the recent negotiations on the Kyoto Protocol. The conservation of forest biological diversity in protected areas – the topic of the third chapter – is an area that has developed and

evolved markedly over the past ten to twenty years. This, together with the prominence of forests in upcoming discussions of the Convention on Biological Diversity, makes forest protected areas a subject of current interest. The fourth chapter of Part II addresses illegal activities and corruption in the forest sector, which was considered a taboo subject until recently but is now openly discussed in international fora. Part III provides an update on the international dialogue on forests and global and regional initiatives for forests, and Part IV provides forest-related information on major regional economic groups.

Advance copies of the *State of the World's Forests 2001* were made available to the delegations attending the fifteenth session of the Committee on Forestry, FAO's highest policy forum on forests, held in March 2001. The final publication incorporates feedback from countries and includes national forest resource data provided to the Global Forest Resources Assessment 2000 after the Committee on Forestry meeting was held.

The FAO Forestry Department trusts that the *State of the World's Forests 2001* will succeed in increasing awareness of key issues in the forest sector today and in providing valuable information that contributes to the achievement of sustainable forest management. FAO would be pleased to hear from readers and welcomes comments, ideas and information that may be useful for the next issue, the *State of the World's Forests 2003*.



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Executive summary

Almost ten years ago in Rio de Janeiro, Brazil, an international commitment was made at the United Nations Conference on Environment and Development (UNCED) to work towards the sustainable management, conservation and development of all types of forests. UNCED, also referred to as the Rio Conference, served to catalyse debate and action on forests – redefining for what, and for whom, forests are managed; developing a vision of sustainable forest management as well as strengthening commitment to its implementation and practice; and forging new and untraditional alliances as a means of achieving common goals in forestry. The *State of the World's Forests 2001* highlights significant developments related to forests, many of which can be traced back to UNCED or even before, while others are driven by more recent economic, social or political trends and events.

While the route to sustainable forest management is challenging and progress is not as rapid as some might wish, the path is now clearer and we are indeed moving ahead.

FOREST RESOURCES: COVER AND CONDITION

There are an estimated 3 870 million ha of forest worldwide, of which almost 95 percent are natural forests and 5 percent are forest plantations. Tropical deforestation and degradation of forests in many parts of the world are negatively affecting the availability of forest goods and services. While forest area in developed countries has stabilized and is slightly increasing overall, deforestation has continued in developing countries. The estimated net annual change in forest area worldwide during the past decade (1990-2000) was -9.4 million ha, representing the difference between the estimated annual rate of deforestation of 14.6 million ha and the estimated annual rate of forest area increase of 5.2 million ha.

The causes of forest degradation are varied. Some, such as overexploitation of forest products,

can be avoided or minimized by sound forest planning and management, whereas the effects of others, such as natural disasters, can be mitigated by contingency planning. The *State of the World's Forests 2001* discusses two recent causes of forest damage: severe wildfires in various parts of the world and the December 1999 windstorms in Europe. Commercial harvesting of bushmeat – a threat to forest-based wildlife – is also discussed.

While wildfires in the 1999-2000 period were not as widespread or devastating as those in 1997-1998, severe fires occurred in the western United States, Ethiopia, the eastern Mediterranean and Indonesia. The fires of the past four years have raised public awareness and concern about wildfires, catalysed national policy responses and mobilized regional and international initiatives for fire prevention, early warning, detection and control. The links between fires and land use policies and practices are now better understood. Community-based fire management projects have been launched in many countries and policies of fire exclusion in fire-dependent ecosystems have been reassessed in some countries.

Policies and practices for fire prevention

Continued emphasis on emergency response will not prevent large and damaging fires in the future. The way out of the emergency response trap is to couple emergency preparedness and response programmes with more sustainable land use policies and practices.

The storms that struck Europe in December 1999 caused massive damage to forests and trees outside forests, seriously affected many people's livelihoods and disrupted forest industries and markets. The total damage in Europe represented six months of the region's normal harvest while, in some countries, the equivalent of several years' harvest was blown down. Governments acted

quickly and effectively to lessen the negative environmental, economic and social impacts. Changes in forest establishment and management measures have been proposed in many countries to reduce the potential risk of storm damage in the future.

The depletion of forest-based wildlife as a result of the commercial harvesting of bushmeat is of growing concern. Unsustainable bushmeat trade is a serious problem in many regions, but it has reached crisis dimensions in parts of tropical Africa, where many species of primates and antelopes, among others, are threatened. This difficult problem is being tackled by non-governmental organization (NGO) efforts as well as government initiatives and is being addressed at the international level by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

MANAGEMENT, CONSERVATION AND SUSTAINABLE DEVELOPMENT OF FOREST RESOURCES

The *State of the World's Forests 2001* highlights some of the recent technical, policy and institutional measures to improve forest management and conservation, reflecting the move to balance social, economic and environmental objectives. These include efforts to reduce timber harvesting in natural forests and to develop alternative sources of industrial wood, improved harvesting practices, the reduction of illegal forest activities and increased community-based forest management.

There is a global trend towards greater reliance on plantations as a source of industrial wood. The development of a significant global plantation estate is quite recent; half of all plantations in the world are less than 15 years old. Asia has led plantation establishment globally; as of 2000, about 62 percent of all forest plantations were located in that region. Other significant developments include: rising private sector investment in plantations in developing countries; increasing foreign investments in plantations; and an expansion of outgrower schemes – or arrangements whereby communities or small landowners produce trees for sale to private companies.

Plantation development: planning for the future

Future increases in demand for wood are predicted to be met largely by forest plantations. Proper planning and management are needed to ensure that there are no associated negative environmental and social impacts.

Traditional biotechnologies have long been used effectively to increase the productivity of forest plantations. While many applications of biotechnology in forestry are uncontroversial, the debate on the use of genetically modified organisms is now involving the forest sector. Genetic modification of forest tree species has been considered for such traits as virus and insect resistance, reduced lignin content and herbicide tolerance. There is no reported commercial production of transgenic forest trees, but field trials are under way in several countries. The application of new biotechnologies offers potential opportunities, but caution is called for in their use in long-term conservation and breeding programmes and plantations.

This issue of the *State of the World's Forests* discusses two recent and very different approaches to improving forest management in production forests: the adoption of environmentally sound forest harvesting practices – or reduced impact logging (RIL) – and restrictions or bans on logging. RIL has proven environmental advantages over traditional logging methods, and there is evidence to suggest that the higher operational costs of RIL are offset by financial gains. Despite these promising findings, RIL is not yet widely practised. Its widespread adoption will depend on the demonstration of its financial viability under a wide range of conditions and the assurance that forest owners and/or managers will be able to realize these benefits.

Many countries have recently imposed bans or restrictions on timber harvesting, either in an attempt to conserve their forest resources or as a response to devastating natural calamities (e.g. landslides and flooding) that are attributed, rightly

or wrongly, to excessive commercial logging. The impacts of the bans and restrictions have been variable. In some countries, they have contributed to the conservation of natural forests. In others, they have negatively affected the forest sector and local communities or have simply transferred the problem of overharvesting to other countries. Experience to date points to certain prerequisites that appear to be necessary for success: clear objectives, based on an understanding of the causes of forest degradation; adequate policies; strong political will; and sufficient resources to cover the short- to medium-term costs involved.

Considering the effects of logging bans

The tendency has been for logging bans to be politically driven and impulsively imposed. The decision to use bans should be based on a thorough analysis of their potential effects and of alternative means of achieving the same results.

Increasing attention is being paid to institutional and governance issues, as technical measures alone have proved insufficient to achieve sustainable forest management. The *State of the World's Forests 2001* focuses on two of these: illegal forest activities and community-based forest management.

Worldwide, there is a growing awareness of the extent of illegal forest activities, including corruption, and of the immense financial, environmental and social costs that such activities incur. Corruption, considered a taboo subject until very recently, is now openly discussed in major international fora and is being actively tackled by governments, NGOs, the private sector and international organizations. Elements in the fight against crime and corruption include strengthened monitoring and enforcement systems, increased transparency in decision-making, simpler laws and more severe punishment. Some governments, with the support of NGOs and relevant private sector institutions, have made significant efforts to combat illegal activities and corruption in the forest sector.

The involvement of communities in forest management is now a significant feature of national forest policies and programmes throughout the world. Many national forest agencies are undergoing decentralization, restructuring and downsizing – with mixed results. Faced with inadequate financial and human resources, governments are increasingly turning to local communities for assistance in protecting and managing state-owned forests. This year's issue highlights some features of community-based management, comparing the approach used in South Asia with a more recent approach emerging in Africa.

FOREST GOODS AND SERVICES

One of the greatest challenges facing the forest sector today is the need to reconcile the conflicting demands of different stakeholders for the many goods and services provided by forests. The *State of the World's Forests 2001* focuses on one forest product – industrial wood – and two environmental services – the mitigation of climate change and the conservation of biological diversity.

Major forest goods and services

- Industrial wood
- Woodfuel
- Non-wood forest products
- Soil and water conservation
- Biological diversity conservation
- Mitigation of climate change
- Support to agricultural systems
- Employment generation
- Provision of recreational opportunities
- Protection of natural and cultural heritage

The past two-year period was marked by the generally good recovery of global demand for industrial wood after the sharp drop in 1997-1998 caused by the Asian economic crisis. The effects of the crisis, although disruptive, were less severe and long-lasting than originally feared. Production of tropical wood products, however, has remained below earlier levels, and some Asian countries

have experienced continued difficulties. Trade, which had dropped in 1997-1998, largely recovered in 1999-2000, but prices showed a mixed recovery, depending on the specific product. A new development has been the growing importance of China as a major consumer of wood, together with a dramatic increase in its wood imports in recent years, owing in part to harvesting restrictions for natural forests. This situation has had significant impacts on production and trade flows inside and outside the Asian region.

A number of trade trends have continued, including an increased proportion of the total production of wood products being exported, increased domestic wood processing, increased trade among developing countries (particularly in Asia) and trade liberalization at a global level, even as some countries are introducing export restrictions. The certification of forest products, although still somewhat controversial, has been gaining acceptance. Interest has been greatest in major importing countries (i.e. western Europe and the United States) and in exporting countries whose main markets are in those areas. The area of certified forests continues to increase and is now estimated to be roughly 90 million ha. Nonetheless, this represents only about 2 percent of the world's forest area and, notably, most certified forests are located in a limited number of temperate countries, not in tropical countries for which concern about unsustainable timber harvesting practices is greatest. Recent developments include the further elaboration of national certification schemes, mutual recognition of certification processes, the favouring of certified wood products by major retail chains in Europe and the United States as well as by various buyers' groups, and the certification of certain pulp and paper products and non-wood forest products.

Forest industries continue to adapt to changes in raw materials, namely the increased supply of plantation wood and of a wider range of species. These trends are giving impetus to the production of engineered wood products (particularly in Europe and the United States), which are capturing some of the market for plywood produced by tropical countries. The reduced

availability of forest-based raw materials has resulted in the emergence of innovative ways of expanding wood supply and in a greater use of residues and waste.

Recent negotiations on the Kyoto Protocol of the Framework Convention on Climate Change (FCCC) have focused considerable attention on forests in the context of climate change. Forests both influence and are influenced by climate change: they play an important role in the global carbon cycle, and their management or destruction could significantly affect the course of global warming in the twenty-first century. If predicted climate changes materialize, the impacts on forests are likely to be dramatic and long-lasting. Forests can contribute towards emission reductions, carbon storage and carbon sequestration. The Kyoto Protocol, if ratified, may have a profound effect on the forest sector, depending on which forestry activities are included as eligible measures for climate change mitigation, and on the rules and standards applied.

Biological diversity conservation – within and outside protected areas

Forest protected areas are a key to the conservation of biological diversity globally. They alone, however, are not sufficient to achieve biological diversity conservation goals and must be complemented by effective conservation measures outside protected areas.

Over the past two decades, the conservation of biological diversity has become a feature of national forest policy and planning throughout the world. It is a major issue on the international agenda, an important component of development assistance and the focus of many NGO-supported activities. Protected areas have long been considered the cornerstone of biological diversity conservation. An estimated 12 percent of the world's forests are in protected areas. Major developments that have occurred recently in the management of protected areas include efforts to integrate conservation and development needs,

community-based conservation, a greater emphasis on ecosystem management and the adoption of a bioregional approach, whereby protected areas are considered within a wider geographic and land use context.

AN INSTITUTIONAL FRAMEWORK FOR FORESTRY

Most countries are now carrying out a national forest programme, which is an iterative forest sector planning process leading to the development of a comprehensive forest policy framework. In many places, this has contributed to the revision of forest policies and legislation and to wider stakeholder participation in forest planning and decision-making processes. Constraints on the implementation of national forest programmes, however, indicate the need for increased financial resources, conflict management and strengthened institutional and human capacity, among other measures.

Two major and seemingly contradictory shifts have been affecting forestry, among other sectors: globalization on the one hand, and decentralization on the other. Forest management is being influenced by freer flows of labour, capital, goods and information between countries. It is also being affected by more pluralistic institutional arrangements, the devolution of responsibilities to a local level and the adoption of participatory processes within countries. The roles and responsibilities of government, the private sector and civil society are being realigned and the relationships between them are changing.

Changing roles in governance

Forest governance systems are evolving rapidly, together with the respective roles and responsibilities of government, the private sector and civil society.

NGOs and other civil society groups have become increasingly active in forest-related advocacy, legal action and natural resource management. NGOs have also become important voices in international discussions.

The private sector is undergoing both structural and functional changes. Large companies have grown even larger and have tended to become more vertically or horizontally integrated. Private enterprises own or control significant forest areas worldwide. Governments have increasingly given up responsibility for many activities through the privatization of state-owned enterprises or modified concession agreements. Some companies have voluntarily and proactively adopted environmentally and socially acceptable practices. Companies are increasingly collaborating with one another as well as with communities and environmental groups on activities related to sustainable forest management.

INTERNATIONAL DIALOGUE AND GLOBAL AND REGIONAL INITIATIVES

Countries were much divided on forest issues at UNCED. In order to advance beyond the agreements made at the Rio Conference, intergovernmental deliberation continued, first under the Intergovernmental Panel on Forests (IPF) from 1995 to 1997 and then under the Intergovernmental Forum on Forests (IFF) from 1997 to 2000. In October 2000, countries agreed to an international arrangement on forests, including the establishment of the United Nations Forum on Forests (UNFF). UNFF's mandate is to promote the sustainable management, conservation and development of all types of forest, to strengthen long-term political commitment and to promote the implementation of the proposals for action agreed on by IPF and IFF.

The past few years have brought further progress in the implementation of the three conventions agreed on at UNCED – the Convention on Biological Diversity, the Framework Convention on Climate Change and the Convention to Combat Desertification. Links have been strengthened between these conventions and with the IPF/IFF process as well as longer-standing conventions and agreements (CITES, the Ramsar Convention on Wetlands and the International Tropical Timber Agreement).

The recent trend of increased regional cooperation in forestry issues has been continuing. The *State of the World's Forests 2001* reports on

regional intergovernmental initiatives related to forests in central Africa, southern Africa, Central America, the Amazon Basin, Asia and Europe. In addition, increased cooperation is also occurring at the ecoregional level, notable examples of which are initiatives for countries with a low forest cover and for mountain forests (in particular within the framework of the International Year of Mountains in 2002). This trend can also be seen on a technical level, for example in regional cooperation with regard to wildfires.

A number of regional and global initiatives support countries' efforts in sustainable forest

related costs and benefits. The groundwork has been laid, but realizing the vision of sustainable management, conservation and development of the world's forests will depend on a number of factors. These include the ability to finance and share equitably the costs and benefits of sustainable forest management, continued and strengthened political commitment, and the translation of political commitment into effective action on the ground. ♦

Strengthened international cooperation

The past few years have seen a strengthening of intergovernmental deliberations on forests at the international level as well as increasing regional cooperation regarding trade and technical issues.

management. The development of criteria and indicators for sustainable forest management has helped to define sustainable forest management better and to measure progress towards achieving it. Model and demonstration forest programmes being implemented in most regions of the world help to illustrate sustainable forest management in practice.

Programmes of international development assistance agencies over the past decade have increasingly supported forest planning efforts and national capacity building, encouraging participatory approaches, community-based management and equity and gender sensitivity. Development agencies' recent shift in emphasis towards poverty alleviation, sustainable livelihoods and food security is likely to encourage a greater focus on the social objectives of forest management.

CONCLUSION

The 1990s have been instrumental in terms of defining a common global vision for the future of forests and their relation to people's lives, including reaching agreements on how to progress towards that vision, developing technologies and tools to facilitate the process, and clarifying the